

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAY 1977

SUBJECT: Final Report - Sampling and Analysis of Well  
Water Samples Collected at Artesian Water Company,  
Llangollen Wellfield and Amoco Chemical Company

DATE: June 1, 1977

Victor Guide (3SA21)  
Civil Engineer, Annapolis Field Office

TO: Larry S. Miller (3SA60)  
Chief, Water Quality Monitoring Branch

ORIGINAL  
(Red)

THRU: Orterio Villa Jr. (3SA20)  
Director, Annapolis Field Office

At the request of the Water Supply Branch, water samples were collected on May 19, 1977 from two (2) Amoco Chemical Company Wells, four (4) Artesian Water Company Wells, one (1) Finished Water Station at the Artesian Water Company, one (1) Test Well from the Llangollen Landfill and one (1) New Castle County Recovery Well. Details of the sampling program are as follows:

LOCATION: Artesian Water Company  
Llangollen Wellfield and  
Amoco Chemical Company

SOURCE REPRESENTATIVES: Artesian Water Company - James Harrington  
Amoco Chemical Company - Albert Smith

STATE OF DELAWARE REPRESENTATIVE: Ronald Staufer

EPA REPRESENTATIVES: Charles Kleeman, Water Supply Branch  
Victor Guide, Annapolis Field Office  
Ronald Jones, Annapolis Field Office

DATE/TIME OF ARRIVAL: at Amoco Chemical Company - 0930  
at Artesian Water Company - 0930

SAMPLING:	Date	Time	Location
	5/19/77	0855	Amoco Chemical Company, Well #PW-1
	5/19/77	0905	Amoco Chemical Company, Well #PW-3
	5/19/77	0930	Artesian Water Company, Finished Water
	5/19/77	0940	Artesian Water Company, Well #7
	5/19/77	0945	Artesian Water Company, Well #2
	5/19/77	1005	Artesian Water Company, Well #G-3
	5/19/77	1035	New Castle County Recovery Well #RW-3
	5/19/77	1100	Artesian Water Company, Midvale #1
	5/19/77	1130	Llangollen Landfill, Well #S-1

RECEIVED

JUN 15 1977

R & D DIVISION  
EPA, REGION III

cc: *Paul Andros*  
*Jen. M. M. M. M.*  
*Al. M. M. M.*  
6/15/77

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At each of these stations samples were collected in triplicate using prewashed, muffled, 50 ml serum bottles with zero-dead volume and Teflon faced septum. Each sample was analyzed for the following organic parameters:

- |                    |                        |
|--------------------|------------------------|
| (1) Acetone        | (6) Hexane - 1         |
| (2) Benzene        | (7) Methyl Pentane     |
| (3) Chlorobenzene  | (8) Methylene Chloride |
| (4) Chloroform     | (9) N-Hexane           |
| (5) Dichloroethane | (10) Toluene           |

Analyses of the well water samples was conducted by the Annapolis Field Office, the Environmental Monitoring and Support Laboratory - Cincinnati, and by Dr. Foppe De Walle, Stanford University. Results from AFO and EMSL are summarized as follows (see attachments for laboratory reports from chemists who did VOA):

#### Annapolis Field Office

Samples were analyzed by direct aqueous injection and Pentane extraction. All requested organic parameters were run on all samples except dichloroethane. No standards were available for this compound at AFO according to Dr. Thomas Munson (this parameter was included in the EMSL analyses and results were negative). None of the suspect compounds were found in any of the samples except for trace chlorobenzene in the Llangollen Landfill Well Sample S-1. Three of the wells (PW-3, RW-3 and S-1) did contain one unidentified large peak. As soon as the Tekmar is in operation these three samples will be rerun and an attempt will be made to identify these peaks.

#### EMSL - Cincinnati

Samples were analyzed by the generalized GC/MS inert gas purge and trap procedure as described in Chapter 3 of the draft GC/MS Manual. All requested organic parameters were run on station Amoco PW-1, Amoco PW-3, Artesian Finished Water, Artesian Well #7, Artesian Well #2 and Artesian Well #6-3. None of suspect compounds (detection limits in the range of 1-10 µg/l) were found in any of these samples by EMSL.

Enclosure

cc: J.G. Gardner  
C. Kleeman

VGuide:ram:3752:6/1/77

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